Fact Sheet

Data to Be Obtained During Disaster Debris Reduction Project

BURNER TESTING:

Burner testing will be conducted in three phases:

- Vegetative matter alone
- Demolition debris which does not contain regulated asbestos-containing materials
- Demolition debris which contains regulated asbestos-containing materials

Burner Outlet Air Emissions Monitoring:

For each phase, sampling and monitoring will be conducted at the outlet of the burner. This monitoring will include:

- Temperature by K-type thermocouples and infrared pyrometry
- Continuous Emission Monitoring (CEM) for:
  - CO_2/O_2 by EPA Method 3A
  - SO_2 by EPA Method 6C
  - NO_X by EPA Method 7E
  - CO by EPA Method 10
  - THC by EPA Method 25A
- Stationary Source Measurements of:
  - Flue Gas Volumetric Flow Rate by EPA Methods 1A & 2C
  - Filterable/Condensable Particulate Matter by EPA Method 5/202
  - HF, HCl, Cl_2, HBr, and Br_2 by EPA Method 26
  - Dioxins/Furans, PCBs, PAHs, and SVOCs EPA Methods 23 and 0010
  - Metals by EPA Method 29
  - VOCs (Modified EPA Method 0040)
  - Particle Sizing by Modified California Air Resources Board Method 501
  - $PM_{2.5}$ by Modified EPA Method 201A
  - Opacity by EPA Method 9

In addition to the above sampling and monitoring, burner outlet sampling will be conducted for asbestos when the burner is processing demolition debris which contains regulated asbestos-containing materials. Transmission Electron Microscopy (TEM) will be used in conformance with ISO 10312.

Characterization of Ash from the Burner:

Ash samples will be collected from each phase of the burner testing. The ash will be subjected to testing to determine if it is hazardous through EPA's Toxicity Characteristic Leaching Procedure (TCLP). In addition, ash from the testing with regulated asbestos-containing materials will be analyzed for asbestos quantity and form.

Process Perimeter Air Monitoring for Burner:

In addition to the burner outlet air emissions testing, EPA will conduct perimeter air monitoring when demolition debris containing regulated asbestos-containing materials is being burned. The perimeter monitoring will be conducted through use of rings of multiple air samplers situated at two concentric locations at radii of approximately 80ft. and 300 ft. from the burner. Targets for perimeter monitoring include:

- Asbestos by ISO 10312:1995
- Total fibers by NIOSH 7400
- Particulate Matter as $PM_{2.5}$
- Dioxins and furans by Method TO-9A
- Total suspended particulate/metals by EPA Methods IO-2.1, IO-3.1, and IO-3.4

GRINDER TESTING:

The grinder will be tested only using a feedstock of demolition debris containing regulated asbestos-containing materials.

Process Perimeter Air Monitoring for Grinder:

Air monitoring will consist of the two perimeter rings such as used for the burner process perimeter testing. These rings of samplers will be located at radii of approximately 80 ft. and 300 ft. from the grinder. Targets for perimeter monitoring from the grinder will include:

- Asbestos by ISO 10312:1995
- Total fibers by NIOSH 7400
- Particulate Matter as PM_{10}
- Total suspended particulate/metals by EPA Methods IO-2.1, IO-3.1, and IO-3.4

Characterization of Discharge Product from the Grinder:

The ground material discharged from the grinder will be analyzed for asbestos content. It will be subjected to the TCLP to determine the appropriate manner of disposal.

ADDITIONAL MONITORING DURING BURN AND GRIND TEST PROGRAM:

In addition to the process emissions monitoring described above, the following testing or monitoring will be conducted throughout the program:

Ambient Air Monitoring:

EPA will conduct monitoring throughout the testing program at ambient locations in the vicinity of the test site. These locations are expected to be upwind from any discharges from the volume reduction processes. The ambient monitoring locations will consist of air samplers similar to those used for the process perimeter air monitoring. The ambient locations will be monitored for:

- Asbestos by ISO 10312:1995
- Total fibers by NIOSH 7400
- Particulate Matter as $PM_{2.5}$ (during burner operation) and PM_{10} (during grinder operation)
- Total suspended particulate/metals by EPA Methods IO-2.1, IO-3.1, and IO-3.4

- Dioxins and furans by Method TO-9A (during burner operation)

Worker Exposure Monitoring:
An exclusion zone will be established around the volume reduction processes. Personnel working inside this exclusion zone will wear appropriate personal protection equipment. Worker exposure to asbestos, lead, and carbon monoxide will be measured.

Process Water:
EPA will utilize amended water to mitigate against emissions of asbestos from storing and handling debris that contains regulated asbestos-containing materials. EPA will collect and sample any process waters and will treat and dispose of them in a proper manner.

Weather:
EPA will have a meteorological station on site to ensure that weather conditions are appropriate for the test program.

DATA QUALITY AND AVAILABILITY:
All data will be collected in compliance with detailed Quality Assurance Project Plans (QAPPs). EPA will utilize a number of contract laboratories for analyses of the samples collected in this test program. All sampling will be subjected to on-site third party field audits and asbestos analyses will be verified through a third party laboratory audit. Data on emissions will be subjected to exposure modeling and risk assessment. Selected preliminary data may be available within 45 days of completion of the field testing program.